



Active management of mild obstructive sleep apnoea: the evidence grows

Obstructive sleep apnoea is highly prevalent and reports indicate a prevalence for mild obstructive sleep apnoea of up to 35% in the general population.¹ However, a lower prevalence of about 5% is reported in the general population for the clinical syndrome when sleep disordered breathing, as determined by the apnoea-hypopnoea index (AHI), is combined with relevant daytime manifestations such as excessive sleepiness.^{1,2} Because many patients with obstructive sleep apnoea, even in the mild category, report debilitating symptoms of sleepiness and other measures of impaired quality of life, the active management of such patients is an important clinical consideration.³ Personal and societal consequences of excessive sleepiness include the well documented increased risk of accidents among sleepy patients with obstructive sleep apnoea, which has led to driving licence restrictions in some jurisdictions.⁴

Although evidence is convincing for the symptomatic benefit of continuous positive airway pressure (CPAP) therapy in patients with moderate or severe obstructive sleep apnoea, the benefit of CPAP in patients with mild disease has been open to debate. This question has practical importance because a poor correlation exists between clinical manifestations and objective measures, based on AHI, of the severity of obstructive sleep apnoea.⁵ Thus, some patients with mild disease might be highly symptomatic, which could be a consequence of obstructive sleep apnoea, but could also relate to lifestyle factors or other sleep disorders such as periodic limb movement disorder. These considerations have led many clinicians who treat people with obstructive sleep apnoea to advocate a limited therapeutic trial of CPAP in patients with mild disease who report high symptom levels; the relationship of symptoms to obstructive sleep apnoea can then be judged by the clinician on the basis of the clinical response to CPAP. However, this pragmatic approach is not based on clear evidence of benefit from randomised controlled trials.

The report by Alison Wimms and colleagues in *The Lancet Respiratory Medicine* provides important evidence to support an active management approach to patients with mild obstructive sleep apnoea.⁶ Data from the MERGE study indicate significant benefits of

CPAP therapy across a range of quality-of-life measures among patients with mild obstructive sleep apnoea (AHI 5–15 events per h) who were randomly assigned to CPAP plus standard care compared with standard care alone. The vitality score on the Short Form-36 questionnaire—the primary outcome—increased significantly after 3 months of CPAP, compared with standard care, with a treatment effect of mean 10.0 points (95% CI 7.2 to 12.8; $p < 0.0001$). An important finding of the study was that CPAP compliance averaged 4.0 h, which is a widely accepted minimum level for treatment efficacy. Furthermore, 81% of patients who were randomly assigned to CPAP expressed a desire to continue therapy after trial completion, which provides strong support for a genuine clinical benefit of therapy. Potential limitations of the study include the fact that sleep studies did not provide an objective assessment of sleep quality; the AHI was probably underestimated because the period of AHI recording in these studies included intervening periods of wakefulness throughout the night.⁷ Thus, some patients classified as having mild obstructive sleep apnoea probably had AHI of greater than 15 events per h.

Adverse clinical consequences of obstructive sleep apnoea relate to neurocognitive variables, such as sleepiness and other quality-of-life measures, in addition to cardiovascular, metabolic, and other comorbidities. Little evidence exists that mild obstructive sleep apnoea is a significant independent risk factor for cardiometabolic comorbidity, and the Sleep Apnea Cardiovascular Endpoints (SAVE) trial showed no objective benefit of CPAP therapy in the secondary prevention of cardiovascular disease in non-sleepy patients with moderate or severe obstructive sleep apnoea.⁸ This report has led some clinicians, especially those outside the sleep field, to question the clinical importance of the disorder and the need for active management. Thus, the potential benefit of CPAP to quality of life assumes added importance, especially in mild obstructive sleep apnoea.

The management of patients with mild obstructive sleep apnoea has typically focused on conservative measures, such as sleep hygiene, behavioural



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approaches, positional therapy, and weight reduction where appropriate, and device-based therapy has often focused on alternatives to CPAP, such as mandibular advancement devices.³ Pharmacotherapy targeted to pathophysiological phenotypes, such as loop gain, arousal threshold, and upper airway muscle insufficiency, represent another interesting possibility for the future, especially in mild obstructive sleep apnoea, and randomised trials of targeted drug therapy have provided promising results.⁹ The management of patients with obstructive sleep apnoea is likely to evolve from the generalised approach of CPAP use or not, to a more personalised approach based on clinical and pathophysiological phenotype, which is especially likely to apply in mild obstructive sleep apnoea. Thus, the management of patients with obstructive sleep apnoea will probably require a more considered approach in future, especially in mild cases, which emphasises the need for specialised knowledge and expertise among clinicians responsible for selecting the most appropriate management option for individual patients.¹⁰

The high prevalence of mild obstructive sleep apnoea is likely to be a major logistical challenge when it comes to providing personalised management strategies for patients in the future, and a shared care approach between sleep specialists and primary care physicians will probably be needed, similar to that used widely in the management of patients with hypertension and diabetes. Wimms and colleagues' Article highlights the

potential role of CPAP therapy as one of a broad range of therapeutic options for such patients.

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